

CLAIMS

1. A thermostat device comprising a first valve disc for opening and closing a first fluid channel, and a second valve disc for opening and closing a second fluid channel, and constituted so as to open either the first fluid channel or second fluid channel and close the other by making said valve discs move integrally in conjunction with the operation of an operating member in accordance with the temperature change of the fluid,

wherein said operating member has a case which seals in one end side thereof a thermal expansion body having a property of expanding and contracting in accordance with a temperature change, and retains a piston from the opening of the other end side thereof in a freely reciprocable manner, and

an outward flange unit provided to the opening on the other end side of said case is made to be said first valve disc.

2. A thermostat device according to claim 1,

wherein the outward flange unit to be said first valve disc is integrally formed in the case of said operating member.

3. A thermostat device according to claim 1,

wherein the outward flange unit to be said first valve disc is formed with a flange-shaped member provided integrally to a part of the case of said operating member.

4. A thermostat device according to claim 3,

wherein said flange-shaped member is welded and fixed to a part of the case.

5. A thermostat device comprising a first valve disc for opening and closing a first fluid channel, and a second valve disc for opening and closing a second fluid channel, and constituted so as to open either the first fluid channel or second fluid channel and close the other by making said valve

discs move integrally in conjunction with the operation of an operating member in accordance with the temperature change of the fluid,

wherein said operating member has a case which seals in one end side thereof a thermal expansion body having a property of expanding and contracting in accordance with a temperature change, and retains a piston from the opening of the other end side thereof in a freely reciprocable manner,

a cylindrical portion for retaining one end of the case constituting said operating member in a freely slidable manner is provided to the main frame of the thermostat device,

an opening to be opened and closed at one end of said case is provided to a part of said cylindrical portion, and one end of said case is made to be said second valve disc.

6. A thermostat device according to claim 5,

wherein the tip of said cylindrical portion is made to face the inside of the passage constituting said second fluid channel, and the inside of said cylindrical portion is made to be a part of the second fluid channel.

7. A thermostat device according to claim 5 or claim 6,

wherein one end of said operating member is a temperature sensor for making said operating member operate in accordance with the temperature of the fluid.

8. A thermostat device according to any one of claims 1 to 7,

wherein said operating member comprises:

a piston which is disposed along the axial direction inside said case in which the internal end thereof faces the inside of said thermal expansion body and the external end thereof protrudes outward from the opening of the other end of the case, thereby reciprocates in accordance with the expansion and contraction of the thermal expansion body;

a guide member disposed at the other end inside said case for retaining said piston in a freely slidable manner; and

a seal member disposed at the internal end of said guide member inside said case for sealing said thermal expansion body in the other end inside the case;

wherein said case is formed as a hollow container which has a substantially bottomed cylindrical shape having an opening for inserting said guide member, and a bottomed portion having a spherical inner peripheral face formed at an end opposite to said opening,

said guide member has a through hole on the axis line, and the outer peripheral portion thereof is resin-molded in the shape of the inner peripheral shape of said case, and

said seal member is interposed between the internal end of said guide member and said thermal expansion body inside said case.

9. A thermostat device according to claim 8,

wherein said case is a hollow container with a bottomed cylindrical shape having a substantially identical diameter size,

said case is constituted so that the thermal expansion body is charged in said bottomed portion side inside said case, and the guide member which the internal end thereof faces said thermal expansion body via the seal member is inserted from said case opening, and

said guide member is installed in the inside of said case to be positioned with a locking member provided integrally to the opening of said case.